

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-24. Canceled.

25. (Currently Amended) A vehicular diagnostic method, comprising:

determining whether a failure has occurred in a device mounted in a vehicle;

transmitting a first failure information that specifies the failure that is determined to have occurred, from the vehicle to a communications center;

receiving the first failure information at the communications center, whereupon a first countermeasure information, which provides countermeasures for the failure specified in the first failure information, is prepared;

transmitting the first countermeasure information from the communications center to the vehicle;

receiving the first countermeasure information at the vehicle, whereupon the vehicle notifies a user of the vehicle of the countermeasures provided in the first countermeasure information and requests an ECU of the device that has the failure to provide details regarding the failure and proceeds to collect the details regarding the failure from the ECU of the device that has the failure for transmission in a second failure information which specifies the collected details regarding the failure;

determining whether a data volume of the second failure information is equal to or larger than a predetermined information volume;

dividing the second failure information into plural pieces of the information such that each piece has the predetermined information volume when the data volume of the

second failure information is equal to or larger than the predetermined information volume;

transmitting the second failure information from the vehicle to the communications center;

receiving the second failure information at the communications center, whereupon the collected details regarding the failure specified in the second failure information, are checked and a second countermeasure information, which provides detailed countermeasures for the failure, is prepared;

transmitting the second countermeasure information from the communications center to the vehicle; and

receiving the second countermeasure information at the vehicle, whereupon the vehicle notifies the user of the detailed countermeasures provided in the second countermeasure information.

26. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein:

upon receiving the first failure information, the communications center transmits the first failure information to a computer provided at an automobile dealer that services the vehicle, which prepares the first countermeasure information in response to the first failure information and transmits the prepared first countermeasure information to the communications center; and, wherein

upon receiving the second failure information, the communications center transmits the second failure information to the computer at the automobile dealer, which prepares the second countermeasure information in response to the second failure

information and transmits the prepared second countermeasure information to the communications center.

27. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

it is determined that a failure has occurred in the device mounted in the vehicle when an alarm lamp, which illuminates when an abnormality has occurred in the device mounted in the vehicle, illuminates; and

the first failure information indicates that the alarm lamp has illuminated.

28. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

29. (Previously Presented) The vehicular diagnostic method according to claim 25, further comprising:

transmitting an information transmission request, which requests the vehicle to transmit the second failure information, from the communications center after the first failure information has been received; and

receiving the information transmission request at the vehicle, whereupon the vehicle transmits the second failure information to the communications center.

30. (Previously Presented) The vehicular diagnostic method according to claim 25, further comprising:

determining whether the vehicle is running, wherein
collection of at least the details regarding the failure for transmission in the
second failure information is prohibited when it is determined that the vehicle is running,
and

collection of at least the details regarding the failure for transmission in the
second failure information proceeds when it is determined that the vehicle is not
running.

31. (Previously Presented) The vehicular diagnostic method according to
claim 30, wherein

the collection of at least the details regarding the failure for transmission in the
second failure information, when it is determined that the vehicle is not running,
proceeds when the user of the vehicle performs a predetermined operation.

32. (Previously Presented) The vehicular diagnostic method according to
claim 31, wherein

the predetermined operation performed by the user initiates the collection of the
details regarding the failure for transmission in the second failure information.

33. (Previously Presented) The vehicular diagnostic method according to
claim 32, wherein

the predetermined operation performed by the user is an operation of an
operating means that includes a preset function to initiate the collection of the details
regarding the failure for transmission in the second failure information.

34. (Previously Presented) The vehicular diagnostic method according to
claim 25, wherein

the details regarding the failure to be collected for transmission in the second failure information are related only to the failure specified in the first failure information.

35. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

the vehicle transmits the first failure information at predetermined intervals of time, when transmitting the first failure information to the communications center two or more times.

36. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

the center receives the first failure information at predetermined intervals of time, when receiving the first failure information from the vehicle two or more times.

37. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

the vehicle transmits the second failure information at predetermined intervals of time, when transmitting the second failure information to the communications center two or more times.

38. (Previously Presented) The vehicular diagnostic method according to claim 25, wherein

the center receives the second failure information at predetermined intervals of time when receiving the second failure information from the vehicle two or more times.

39. (Previously Presented) The vehicular diagnostic method according to claim 25, further comprising

storing at least the first failure information, from among the first failure information and second failure information, transmitted from the vehicle to the communications center; and

providing at least the first failure information stored at the communications center to an external terminal device requesting at least the first failure information.

40. (Currently Amended) A vehicular diagnostic system, comprising:

failure detection means, provided in a vehicle, for detecting the occurrence of a failure in a device mounted in the vehicle;

failure information output means, provided in the vehicle, for outputting failure information specifying the failure detected by the failure detection means;

vehicle communication means, provided in the vehicle, for transmitting failure information, which is output from the failure information output means and for receiving countermeasure information;

communications center communication means, provided at a communications center, for receiving failure information from the vehicle and for transmitting countermeasure information to the vehicle;

countermeasure information preparation means, provided at the communications center, for preparing countermeasure information that provides countermeasures for the failure specified in failure information from the vehicle, and

vehicle failure notification means for notifying a user of the vehicle of countermeasures provided in countermeasure information from the communications center; wherein

the failure information output means outputs a first failure information that specifies the failure detected by the failure detection means in the device mounted in the vehicle and the vehicle communication means transmits the first failure information from the vehicle to the communications center;

the countermeasure information preparation means prepares a first countermeasure information in response to the failure specified in the first failure information received by the communications center communication means and the communications center communication means transmits the first countermeasure information to the vehicle;

the vehicle failure notification means notifies the user of the countermeasures provided in the first countermeasure information; and

the failure information means requests an ECU of the device that has the failure to provide details regarding the failure and proceeds to collect the details regarding the failure detected by the failure detection means from the ECU of the device that has the failure for transmission in a second failure information, ~~which is transmitted to the communications center by the vehicle communication means, when the vehicle communication means receives the first countermeasure information;~~

the failure information means determines whether a data volume of the second failure information is equal to or larger than a predetermined information volume, and divides the second failure information into plural pieces of the information such that each piece has the predetermined information volume when the data volume of the second failure information is equal to or larger than the predetermined information volume;

the vehicle communication means transmits the second failure information to the communications center when the vehicle communication means receives the first countermeasure information;

the countermeasure information preparation means prepares a second countermeasure information in response to the collected details regarding the failure specified in the second failure information and the communications center communication means transmits the second countermeasure information to the vehicle; and

the failure notification means notifies the user of detailed countermeasures indicated in the second countermeasure information when the vehicle communication means receives the second countermeasure information.

41. (Previously Presented) The vehicular diagnostic system according to claim 40, further comprising:

storage means, provided at the communications center, for storing at least the first failure information from among the first failure information and the second failure information received by the center communication means.

42. (Previously Presented) The vehicular diagnostic system according to claim 40, wherein

the failure detection means is an alarm lamp illumination device mounted in the vehicle.

43. (Previously Presented) The vehicular diagnostic system according to claim 40, wherein

the collected details regarding the failure, specified in the second failure information, include at least one of sensor information from various sensors mounted in the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

44. (Currently Amended) A vehicle, comprising:

failure detection means for detecting the occurrence of a failure in a device mounted in the vehicle;

failure information output means for means for outputting failure information specifying the failure detected by the failure detection means;

communication means for transmitting failure information, output from the failure information output means, to a device outside of the vehicle and for receiving countermeasure information from the device outside of the vehicle; and

failure notification means for notifying a user of the vehicle of countermeasures indicated in countermeasure information from the device outside of the vehicle, wherein

the failure information output means outputs a first failure information that specifies the failure detected by the failure detection means in the device mounted in the vehicle,

the communication means transmits the first failure information to the device outside of the vehicle and receives a first countermeasure information from the device in response;

after receiving the first countermeasure information, the vehicle failure notification means notifies the user of the countermeasures provided in the first countermeasure

information and requests an ECU of the device that has the failure to provide details regarding the failure; ~~and~~

the failure information means proceeds to collect the details regarding the failure detected by the failure detection means from the ECU of the device that has the failure for transmission in a second failure information, determines whether a data volume of the second failure information is equal to or larger than a predetermined information volume, and divides the second failure information into plural pieces of the information such that each piece has the predetermined information volume when the data volume of the second failure information is equal to or larger than the predetermined information volume;

the communication means transmits the second failure information to the device outside of the vehicle and receives a second countermeasure information from the device in response,

the failure notification means notifies the user of countermeasures indicated in the second countermeasure information.

45. (Previously Presented) The vehicle according to claim 44, wherein the failure detection means of the vehicle is an alarm lamp illumination device mounted in the vehicle.

46. (Previously Presented) The vehicle according to claim 44, wherein the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

47. (Withdrawn) A communications center, comprising:

communication means for receiving from a vehicle a first failure information specifying a failure that has occurred in the vehicle and for transmitting to the vehicle a first countermeasure information in response to the first failure information; and

countermeasure information preparation means for preparing a first countermeasure information, which provides countermeasures for the specified failure, in response to the first failure information; wherein

the communication means receives from the vehicle a second failure information indicating details regarding the failure, after transmitting the first countermeasure information, and transmits to the vehicle a second countermeasure information in response to the second failure information; and

the countermeasure information preparation means prepares a second countermeasure information, which provides countermeasures for the details regarding the failure in the second failure information, in response to the second failure information.

48. (Withdrawn) The communications center according to claim 47, further comprising

storage means for storing at least the first failure information from among the first failure information and the second failure information received by the communication means.

49. (Withdrawn) The communications center according to claim 47, wherein the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in

the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

50. (Currently Amended) A vehicular diagnostic system comprising:
a failure detection device, provided in a vehicle, that detects the occurrence of a failure in a device mounted in the vehicle; and

a vehicle communication device, provided in a vehicle, that transmits failure information specifying the failure detected by the failure detection device;

a communications center communication device, provided at a communications center, that receives failure information transmitted from the vehicle and transmits countermeasure information that provides countermeasures for the specified failure to the vehicle;

a failure notification device, provided in the vehicle, that notifies a user of the vehicle countermeasures indicated in countermeasure information from the communications center; and

a controller, provided in the vehicle, that collects detailed failure information regarding the detected failure after the vehicle communication device receives countermeasure information from the communications center; wherein

the vehicle communication device transmits a first failure information specifying the failure detected by the failure detection device to the communications center when the failure detection device detects the failure in the device mounted in the vehicle and;

the communications center communication device receives the first failure information and transmits to the vehicle a first countermeasure information, which

provides countermeasure for the failure specified in the first failure information, in response;

when the vehicle communication device receives the first countermeasure information, the failure notification device notifies the user of countermeasures indicated in the first countermeasure information and requests an ECU of the device that has the failure to provide details regarding the failure and the controller proceeds to collect the details regarding the failure from the ECU of the device that has the failure for transmission in a second failure information, ~~which is transmitted to the communications center by the vehicle communication device;~~

the controller determines whether a data volume of the second failure information is equal to or larger than a predetermined information volume, and divides the second failure information into plural pieces of the information such that each piece has the predetermined information volume when the data volume of the second failure information is equal to or larger than the predetermined information volume;

the vehicle communication device transmits the second failure information to the communications center;

the communications center communication device receives the second failure information and transmits to the vehicle a second countermeasure information, which provides countermeasures for the second failure information, in response; and

the failure notification device notifies the user of countermeasures provided in the second countermeasure information when the vehicle communication device receives the second countermeasure information.

51. (Previously Presented) The vehicular diagnostic system according to claim 50, further comprising:

a storage device, provided at the communications center, that stores at least the first failure information from among the first failure information and the second failure information received by the center communication device.

52. (Previously Presented) The vehicular diagnostic system according to claim 50, wherein

the failure detection device of the vehicle is an alarm lamp illumination device mounted in the vehicle.

53. (Previously Presented) The vehicular diagnostic system according to claim 50, wherein

the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

54. (Previously Presented) The vehicular diagnostic system according to claim 50, wherein

the failure notifying device is a navigation unit.

55. (Currently Amended) A vehicle, comprising:

a failure detection device that detects the occurrence of a failure in a device mounted in the vehicle;

a controller that requests an ECU of the device that has the failure to provide details regarding the failure and outputs a first failure information specifying the

detected failure, ~~and~~ proceeds to collect the details regarding the failure detected by the failure detection device from the ECU of the device that has the failure, determines whether a data volume of a second failure information is equal to or larger than a predetermined information volume, divides the second failure information into plural pieces of the information such that each piece has the predetermined information volume when the data volume of the second failure information is equal to or larger than the predetermined information volume, and outputs a the second failure information specifying detailed information regarding the detected failure;

a communication device that transmits the first failure information output from the controller and transmits the second failure information output from the controller to the device outside of the vehicle, and that receives a first countermeasure information, responding to the first failure information, and a second countermeasure information, responding to the second failure information, from the device outside of the vehicle; and

a failure notification device that notifies a user of the vehicle of countermeasures provided in the first countermeasure information and the second countermeasure information.

56. (Previously Presented) The vehicle according to claim 55, wherein the failure detection device is an alarm lamp illumination device mounted in the vehicle.

57. (Previously Presented) The vehicle according to claim 55, wherein the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in

the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.

58. (Previously Presented) The vehicle according to claim 55, wherein the failure notification device is a navigation unit.

59. (Withdrawn) A communications center, comprising:

a communication device that receives a first failure information, specifying a failure that has occurred in a vehicle, from the vehicle; and

a controller that prepares a first countermeasure information that provides countermeasures for the first failure information; wherein

the communication device receives a second failure information, indicating details regarding the failure, from the vehicle in response to the first countermeasure information; and

the controller prepares a second countermeasure information that provides countermeasures for the second failure information.

60. (Withdrawn) The communications center according to claim 59, further comprises

a storage device that stores at least the first failure information from among the first failure information and the second failure information transmitted from the vehicle.

61. (Withdrawn) The communications center according to claim 59, wherein

the collected details regarding the failure specified in the second failure information include at least one of sensor information from various sensors mounted in the vehicle, operation state information of the device mounted in the vehicle, and self-diagnosis information from the device mounted in the vehicle.